

IN THE UNITED STATES DISTRICT COURT
 FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, *et al.*

Plaintiffs,

v.

TYSON FOODS, INC., *et al.*

Defendants.

Case No. 4:05-cv-00329-GKF-SAJ

Second Declaration of Dr. Victor J. Bierman, Jr.

I. Victor J. Bierman, Jr., state the following:

1. My name is Victor J. Bierman, Jr.
2. I earned a PhD in Environmental Engineering from the University of Notre Dame in 1974. I previously earned a master's degree in physics from the University of Notre Dame in 1971, and an A.B. in Science from Villanova in 1966.
3. I am currently a senior scientist with LimnoTech, an environmental consulting firm specializing in water quality issues and water system modeling. I served previously as a National Expert in Environmental Exposure Assessment for the United States Environmental Protection Agency. I was also formerly an Associate Professor in the Department of Civil Engineering at the University of Notre Dame.
4. I have nearly 35 years experience in the development and application of water quality models for eutrophication and the fate and transport of chemicals. I have published or contributed to over 100 technical papers and reports regarding these subjects. My experience includes the assessment of water quality issues related to nutrients, algal blooms, nitrogen fixation, and ecosystem processes. I have also analyzed the fate, transport, partitioning and bioaccumulation of chemicals. I have conducted assessments in a wide variety of locations including rivers and lakes, and including U.S. EPA superfund sites. I have extensive experience using computer models to analyze aquatic systems and addressing errors and uncertainties in such models.
5. I have been retained by the Defendants in this matter to analyze and respond to the Plaintiffs' modeling of the Illinois River Watershed (IRW). I have reviewed the reports submitted by Darren Brown, Lowell Caneday, Berton Fisher, Gordon Johnson, Todd King, Robert Lawrence, Roger Olsen, Megan Smith, Robert Taylor, Chris Teaf, Bernard Engel, Valerie Harwood, Jan Stevenson, Dennis Cooke, Eugene Welch, and Scott Wells in support of Plaintiffs' case.

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6. A model consists of a working computer program plus associated input files, output files and data files. As discussed in my first declaration, models are often created by taking off-the-shelf computer software and altering as desired by the modeler. That appears to be what Plaintiffs' experts have done in this case.
7. From the affidavits that Plaintiffs have filed with the Court, it is clear that Plaintiffs' experts have several working models of the Illinois River Watershed and Lake Tenkiller. By "working," I mean that these models operate on one or more computers and produce the results discussed in the Plaintiffs' various expert reports, not that the models are necessarily accurate representations of real-world events.
8. The models in this case are very complex. They contain numerous calculations and assumptions buried in the computer code.
9. Plaintiffs have produced a large number of individual computer programs, input files, output files and data files, but have not produced working copies of their models. Rather, Plaintiffs have disaggregated the working models on their computers and produced the component files. Plaintiffs have not indicated how these individual programs and files should be assembled to create working models that reproduce the exact results in their experts' reports.
10. I and my staff have put some of these pieces back together and have created operating versions of the experts' models, but there is more than one way to put these individual pieces together and it is impossible for us to determine how to put them together to reproduce the exact results in the experts' reports. This effort has consumed a great deal of time and expense.
11. I request the complete working models with all computer programs, input files, output files and data files fully assembled, that will exactly reproduce all of the results in the experts' reports, including the calibration and the scenario results.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on JUNE 11, 2008

